

Mid-Term Patient-Reported Outcomes Following Use of the Internal Joint Stabilizer for Unstable Injuries of the Elbow

Mitchell K. Ng, MD; Paul G. Mastrokostas, BA; Jake Schwartz, MD; Kevin K. Kang, MD

Purpose: This study aims to evaluate the midterm functional outcomes and complications associated with the Internal Joint Stabilizer of the Elbow (IJS-E) for managing elbow instability, particularly in patients with terrible triad injuries.

Methods: This retrospective cohort study was conducted at a single Level I trauma center. Patients treated with the IJS-E for elbow instability between June 2016 and July 2024 were identified through a review of institutional medical records. Inclusion criteria consisted of traumatic elbow injuries requiring stabilization with the IJS-E, while exclusion criteria included incomplete clinical records and prior stabilization with external fixators. The primary outcomes assessed were Disabilities of the Arm, Shoulder, and Hand (DASH) scores, IJS-E implantation duration, and the incidence of subsequent surgical procedures. Descriptive statistical analyses were performed to summarize patient characteristics and outcome measures.

Results: The study included 24 patients with a mean age of 51.7 years (range: 19–79 years) at the time of surgery. The median IJS-E implantation duration was 96 days, with a mean of 97.6 days (range: 41–171 days). The median follow-up period was 46.8 months, with a mean of 50.3 months (range: 5.0–93.2 months). Functional outcomes assessed using DASH scores showed a mean of 18.8 and a median of 6.3. One patient experienced complications requiring two additional procedures, including hardware removal with joint debridement and interposition arthroplasty. Another patient underwent elbow arthrotomy with capsular excision at 212 days.

Conclusion: The IJS-E offers an effective treatment option for managing elbow instability, particularly in complex injuries such as terrible triad patterns. Functional outcomes, as demonstrated by DASH scores, indicate a reduction in disability compared to traditional methods, while the low rate of reoperations and complications underscores the safety and reliability of the device. These findings highlight the potential of the IJS-E as a viable alternative to external fixation, supporting its broader application in orthopaedic trauma care.